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NOVEMBER 1960

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INDIANAPOLIS RADIO CLUB, INC.
FOUNDED 1916

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PLENTY OF FREE PARKING

The Indianapolis Radio Club meets on the 2nd and 4th Friday of each month at the Indianapolis Park Board Building located at 29th and Harding Streets. Meetings start promptly at 8:00 P. M. Indianapolis time.

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member in 1919

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* * * * *

Ama-Chewer is published monthly by and for I.R.C. and all Amateurs in this area. Non-Members of I.R.C. may subscribe at the rate of \$1.00 per year.

Publication is on the 3rd Friday of each month, with all news items and ads due no later than the 1st Friday of each month.

Ham-Ads (5 line limit) are free to members and subscribers. Others may use this facility at the rate of 50 cents per ad.

Ama-Chewer welcomes the forwarding of information on coming events of other clubs in the area for publication in

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CL 57030 CLIFF WEEKD

December 9 Election of Officers--Everybody come out
 for a bigger 1961.

December 16 CHRISTMAS PARTY---Gift Exchange----
 \$1.00 minimum----More later.

January 13 Installation of Officers

* * * * *

AREA WIDE HAM GEAR SWAP & AUCTION

The Allison Amateur Radio Club presents an AREA WIDE HAM GEAR SWAP & AUCTION----Thursday Night-----
January 19, 1961-----Columbia Park Club House-----
2800 South East Street (First street east of Madison Avenue Expressway)

Swap begins at 8:00 PM and Auction begins at 8:30 PM.
You are welcome to bring your gear for trade or auction!
Minimum price may be set on all gear!

FREE COFFEE AND DOUGHNUTS

COME ONE, COME ALL, THE MORE THE MERRIER!!!!

* * * * *

BARGAINS!! BARGAINS!! BARGAINS!!

FOR SALE:	
PE 103 on base-----	\$ 5.00
BC 373A compass unit (for parts)-----	\$ 1.00
8" Speaker in nice crackle box with handle-----	\$ 4.00
BC 605 and conversion instructions for Intercom-----	\$ 1.50
4-150's-----	\$ 5.00
57 VDC-400 cycle selszyns--OK on 12V @ 60 cycles-----	\$ 1.00 pr.
TU 10B Tuning Unit-----	\$ 1.00
RA 10 Aircraft Receiver-----	\$ 5.00
522 2 meter AM transmitter & receiver-----	\$10.00
2 BC 654---Transmitter & Receiver--80 meters, with circuitry. No Power Supply-----	\$10.00

Color cameras have 3 tubes, one for each of the primary

colors Red, Green and Blue. The primary colors could be any three as long as any two do not make the third color.

Equal amounts of each primary give white. There are complex systems for separating the three colors which are made of reflecting filters. #1 Blue reflecting which passes green and red, #2 Green reflecting which passes red and separates each into individual channels. The brightness signal, Y, equals 59 Green Plus 30 Red Plus 11 Blue.

By vector diagrams the color can be explained; briefly "I" equals the in phase signal. "Q" the 90 degree out of phase signal. "I" = -28 G plus 60 R - 32 B
"Q" = -52 G plus 21 R plus 31 B

For any color with above formula "Y" signal equals 100 and for black picture "I" and "Q" equal zero. A burst reference signal is transmitted to sync. the 3.58 in the TV receiver and the video signal is SSB and the carrier is re-inserted at the TV set also.

(continued on page 10)

A very interesting program on TV cameras and tape machines was put on Friday October 14th by Mr. Robert Brockway, chief engineer of WFBM-TV.

Mr. Brockway explained the primary function of the image orthicon is to translate a light image into a video signal capable of being either transmitted or broadcasted. This image-translation process is so complex that four separate functions are essential in the image orthicon for image quality. These functions are performed by the image section, the target mesh storage section, the scanning section, and the multiplier section. The primary function of the image section is to convert a light image which has been impressed by an optical system onto the photo-cathode of the tube, into a properly focused electron image. The image information is sent to the next part of the tube, a storage section, where it is stored until such time as the scanning section of the tube is ready to accept it. The video information is removed from the storage section of the tube by the scanning function; it is weak compared to the noise in the first stage of amplification. Next the video information is sent through an essentially noiseless multiplier to achieve a signal level which can be amplified electronically. Brockway explained "Stickiness" in image tubes as they get older they tend to hold a picture image on target glass too long. This is due to a molecular change in the glass which packs structure at front-side and beam does not wipe off old picture.

Alvey Pittman, W9JJC
AX 1-9252
* * * * *

3

PRESIDENTS FREQUENCY

Well the elections aren't limited just to Republicans and Democrats, because we are due for some speeches, promises, slogans, and debating within the IRC real soon.

The day is December 9th, which means that each and every member should make it a point to be on hand to cast his or her vote. Just as in our governmental elections we have something at stake here in the IRC voting, because you can't direct the operation or policy of any unit if you shy away from the ballot box.

We have had a good year at IRC and we can expect to have an even better year coming up, provided that you get behind your choice of President, Sec'y., Treasurer etc. and vote your man into office.

In another section you will find a complete list of all members who are eligible to hold office, so that you can pick your man or lady and be ready on election night.

Also there is listed those parts of the Constitution which set out the way and means by which all IRC elections are to be conducted. We suggest that you read it very closely so that there will be no misunderstandings or confusion when the balloting gets underway.

The nominating committee was appointed at the October business meeting, with Frank Fitch-W9EJW as Chairman, aided by Henry Peterson-W9ZRK and Fritz Manning, W9VPN. They have stated that they will nominate only those who are willing to serve, as an elected officer should want to WORK.

Our membership is approaching the 100 plus mark and I want to pass it before December 31st. Have you brought your friends to club and fed them a application blank (right after coffee and doughnuts). The bigger the club becomes the better its going to be with a wider field of experience, better connections for speeches and programs, with more all around interest for everyone. So lets get them out to a meeting and get the club roll up over the 100 mark.

* * * * *

NEW CALL IN THE AREA

We have learned from Claude Richie, W9TKV that we have a new call in the area in the person of Kirk Wilson-WA6HQF from SanDiego, California. We haven't met the gent yet, but if one of you enterprising guys will get him down to the club, we would welcome the chance.

COVER STORY

If the subject on the cover this month seems to be "beam-ing", it's because he's expecting to be a new grandpaw! Fritz---or W9VPN---or Vinegar, Pickles & Noodles is a 25 year ham, receiving his license in 1935 after several years of SWLing. Now, as then, he builds nearly all of his equipment. His operating has covered all bands except 15 meters. I remember--before the war--he was a strong supporter of 5 meters and was one of the early high frequency experimenters.

Beams of all kinds have come and gone in his back yard and a triband quad on his steel windmill tower now squirts out VPN's signal. His DX record is approaching 100 countries but I don't think DX impresses him anymore. Six meters seems to be a favorite now. The rig now starts with a Command xmtr. for a VFO to a 6N7, 6L6 & 24G & HK 54's P/P at about 200 watts. The receiver (commercial) is an HQ 140X with a VH 152A converter for 2-6-10. Fritz also tackles home movies and some of you saw his reel in color covering the story of erecting his tower (with subtitles no less!).

In 1954 Fritz with his brother William, made a trip to Germany to visit his mother--some of us had a chance to see a real "travelog" movie of his trip.

He operates his own Body Shop business at his home address and with 35 years experience in this work you can take our word for it, he can make a sick fender look young again. His advertisement appears on the back inside cover of AMA-CHEWER.

Fritz is in our opinion a typical ham---inquisitive with a practical back ground, a good mechanic and ALWAYS willing to help! We're proud to have him as a long time member of I.R.C. !

* * * * *

GRAHAMS SPECIALS FOR THE MONTH

Collins KWS-1-----	Fine Condition-----	\$ 1,095.00
Hallicrafter SX-100-----		\$ 219.00
Hallicrafter SX-28A-----		\$ 90.00
Johnson Thunderbolt Linear-----		\$ 379.00
Johnson Ranger-----		\$ 190.00
Johnson Pacemaker-----		\$ 295.00
Drake 1A Receiver-----		\$ 189.00
National NC-98-----		\$ 85.00

* * * * *

Many of you saw the article in the Indianapolis Star about Hams operating a roving patrol during the Halloween week as a aid of the local law enforcement groups in the prevention of property damage. Fortunately or unfortunately Hank, K9LZJ was the only ham mentioned by name in the article which resulted in a pretty rough time at school, phone calls to his home and even threats of physical harm.

We are all proud of the Amateurs who volunteer their time and equipment to help out where ever they are needed and we also know that their efforts no doubt saved or prevented many dollars of property damage.

Stick with it fellows and if things get to rough, remember the ace in the hole that you have....we can run faster than they can....I hope!

* * * * *

WALLPAPER SPECIAL

If any of our IRC members do not have their IRC certificates or have lost the original copy, see the Pres. as he has made arrangements to reissue those that are required.

We have had an unintentional mixup in the mailing schedule and to those of you who recently received yours at a delayed date, we're sorry.

So if you are missing that wallpaper from IRC give us a shout via the Pres. and we will see if we can't get things straight real soon.

* * * * *

THE DIRECTORY IS JUST ABOUT READY

Getting 80% of the questionnaires back from the Amateurs in this area was duck-soup, but boy oh boy that other 20% was a real dandy.

By the time you read this, the Directory should have passed through the presses and be about ready for mailing. So.... if you haven't sent in your dollar we suggest that you do so pronto, as no self-respecting ham would be caught at the mike without his handy-dandy reference of Who is who and where. Send all requests to Pat Husk, K9EUQ (see page 1 for address) and he will see to it that your copy is soon on its way.

Next month we will have the results of initial sales and distribution, which we will pass along to you.

"SWITCH TO SAFETY"

Our editor has suggested that in this section of the paper that an article or articles on the subject of safety in the shack would be appropriate and we agree with him. It cannot be repeated too many times, especially with regard to the transmitter, that it pays to do your trouble shooting with one hand in your pocket. Those voltages can be and too often are fatal. Don't overlook, also, the fact that the voltages in the receiver can also hand you a terrific jolt.

However, these are items that the had can do something about with some special attention and care. There is another place that safety is necessary as much as in the shack. How about your antenna? If you are the usual type of amateur operator and work several bands you probably have several antennas at various locations about the QTH. It is in regard to safety with these necessary parts of the average amateur installation that we will direct our attention.

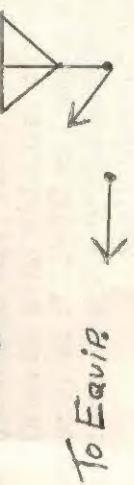
First of all, in the interest of safety, and to stay out of trouble with the power and telephone companies, it is necessary to see that your sky-hook is erected in the clear with regard to power lines and telephone drops. This is just good plain practice also, if you want your signal to go places. It is amazing how much of your signal can be absorbed by adjacent wires. Running your antenna or balanced feedline in proximity with telephone lines or drops is also inviting complaints from your neighbors for getting into their phone conversations. Never, NEVER, use a public utility pole for a support for one end of that long wire receiving antenna. That is just inviting the line voltage into the shack by way of a broken feed line down across the antenna.

So much for the do's and don'ts of antenna erection with regard to other wires in the vicinity of the antenna location. There is still one area of safety in regard to antenna's that we haven't mentioned and this is the one that is most often neglected. A properly installed amateur antenna, whether it be a long wire for the low frequencies or a more pretentious beam for the higher frequencies, they all make fine paths for lightning. There is no valid evidence to support the popular theory or idea that such installations "draw lightening" but it has been proved quite conclusively that such installations, when properly grounded, do afford quite adequate protection against lightening for the structures they are installed on or near.

(continued on page 8)

What do we mean by "properly grounded" in reference to the amateur antenna? Simply that a DC path is provided from the antenna or feed line to a system of grounds to allow static charges to leak off to ground rather than to build up dangerous charges on the antenna and any associated equipment that may be connected to it. It is in the fact that these charges are conducted to ground and so neutralized that the antenna affords its protection from lightning. It has been shown that these charges, when allowed to build up on such a structure, initiates the initial discharge that is the start of a severe lightning discharge.

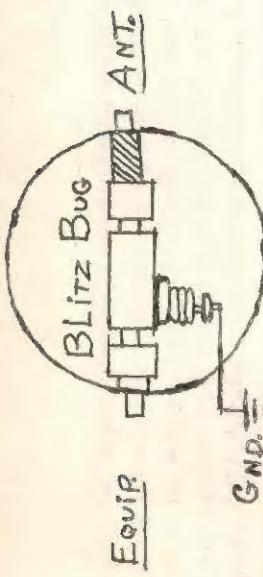
There are several ways that an antenna may be "properly grounded" and with this in mind we have included the following drawings:



This illustrates the oldest and probably the most effective method of protecting equipment from lightning. It makes use of a very heavy duty single pole double throw knife switch. As illustrated, the antenna is connected to the center or blade terminal with the equipment lead-in connected to one end and a very heavy ground system connected to the other end terminal. In practice, when the equipment is not in use, the switch is thrown to the position to ground the antenna directly. When it is desired to use the equipment, the switch is thrown in the other position. This switch was at one time available with a built in gap between the blade terminal and the ground terminal to allow a spark gap path for any lightning that might have been picked up by the antenna while the equipment might have been in use. We have seen such occurrences happen and the gap was very effective in protecting both the equipment and the operator of the moment.

Illustrated on page 544 of the 1960 issue of the ARRL Handbook is a gap type of lightning arrester that can be "home-brewed" for use with parallel feed lines, particularly of the open wire construction.

Third, and newest, of the devices to protect equipment from damage by lightning is a commercial device marketed as the Blitz Bug and is designed to be used with co-ax feed lines. We have copied the application drawing of the device from the manufacturers installation instructions:



There is one means of protecting equipment and associated housing and operating personnel that has not been mentioned as yet. If your antenna or beam is of the type that is mounted on a metal tower with the base or legs buried in the earth and the beam is of all metal construction with the driven element grounded at the center to the boom and using a gamma or tee match, so that the entire structure is at ground potential with respect to D.C. tests, then you have the best lightning protection of all. Static charges that tend to build up on insulated arrays and so cause lightning or heavy static discharges do not have a chance to build up on the all grounded array. Grounding switches, spark gaps and other devices are not necessary here. It is important, though, that your feed lines, rotor control lines and any other wiring you may have associated with the tower be run INSIDE the tower. The reason for this is: Static charges accumulate on the outside of any structure and any lines or equipment mounted inside the tower do not accumulate the charge.

I hope that some of these remarks and information will help you to, "SWITCH TO SAFETY."

W9JZV

* * * * *

BLIND STUDENT GETS STATION

Through the auspices of the Indianapolis Radio Club, Stephen Speicher, a student at the Indiana School for the Blind, has passed his novice test. His call is KN9ZFP. His success in obtaining the license was mainly due to Robert Caskey, W9DNQ, Bob Osterhous, W9PSE and others who served as code teachers at the blind school.

On Saturday, November 6, James Sugioka, W9CKB, Mrs. Speicher and Stephen, along with Robert Caskey and Chester Martin, W9LWN, purchased a used SX-101 ham band receiver and a used Viking Challenger as the new equipment for Stephen. On the same Saturday afternoon, with the aid of James Sugioka and neighbors, the antenna was put up and now Stephen Speicher is on the air on the novice bands working 10 meters.

Mr. Brockway also explained the new tape machines which use 2" wide tape and has frequency response to about 5 Mc. The tape machine consists of 6 relay racks at a total investment of about \$150,000, it contains 315 tubes plus about 100 diodes. A normal tape will run about 100 plays before trouble is experienced.

Mr. Brockway gave an excellent presentation on a most interesting and complicated subject.

* * * * *

EXCHANGE STUDENT WANTS PHONE PATCH

Miss Elly Engelkis, 17 year old exchange student from Holland (Netherlands) would like to speak with her parents via amateur radio sometime in December. She is staying at the home of The Reverend Paul Moore, 3665 Washington Blvd., Phone WA 3-2066. Her home is in Leewarden, Netherlands.

Amateur operator in her town is T. Tysma, PA0FFF. Will some IRC member contact PA0FFF for a schedule?

* * * * *

Copied from November 1960 issue of Reader's Digest.

"Several young Signal Corps recruits were discussing their reasons for choosing this branch of the service. A lanky Texan was asked how he happened to be in the Corps. "Well," he drawled, "when I enlisted they asked what I had done before, and I told them I'd been a rodeo hand. The enlisting officer wrote down radio ham, and here I am."

* * * * *

SPLATTER

Some of you will remember Herb Ridgely, K9OBK who was a member of our club a few years back. Herb moved to Miami and can now be heard as K4GCX where he is operating a "S Line" outfit. Herb has requested that we say "Hi" to all his friends here and that we take his \$\$\$ for a subscription to the Ama-Chewer.

The IRC was 5th in state Field Day standings in overall competition and was 6th in the IRCC contest for 6 meters.

The next IRCC meeting will be April 9th, 1961 at the Indiana Memorial Union Bldg., Ind. University, Bloomington.

WANTED---Tri-Band Beam at a reasonable price.

Purdue Radio Club, W9YB
c/o Gary Hughes, K9LNX
P. O. Box 946, MRH-3
West Lafayette, Indiana

FOR SALE---

Heathkit Signal Generator-----\$10.00
Jerry Lucas, W9APJ
AX 1-0372

* * * * *

YOU ASKED FOR IT

After a recent program night we were asked just how a Image Orthicon tube operated. Now we just didn't have the answer on the tip of our tongue, so we had to refer to our reliable source on such items, Bob Osterhous-W9PSE, who came up with the following. We might add that if this is kinda over your head, ask us about it at the next meeting, and we will refer you to Bob.

Image Section: The photocathode section of the tube is photomissive. Thus a light image focused onto it by an appropriate optical system will be translated into an electron image which in turn is directed toward the target section by a combined electrostatic and electromagnetic focusing system. The photoelectrons are emitted in direct proportion to the light intensity which has come to the photocathode from the various parts of the scene; by reason of the electrostatic magnetic focusing system, the electrons approach the target in an array unchanged from that on the photocathode.

If all the electrons left the photocathode at zero energy, the problem of focusing would be relatively easy to solve and a simple electrostatic lens could be utilized. Unfortunately the electrons leaving the photocathode have a large range of velocities varying substantially in speed and direction. The magnetic focusing field swings these off-axis electrons into a helical beam. Proper focusing is achieved when the photocathode voltage is adjusted so that the individual electrons will exactly achieve one complete helix and come back to the same angular position as they travel from photocathode to target. It will be observed that the photosurface has a greater sensitivity to blue light than does the human eye. Thus a Wratten #6 filter will shift the effective response curve toward the red and thus cause the spectral response to approximate closely that of the eye.

TWENTY YEARS AGO

A recent article in the newspapers noting the death of Mr. Fleming, an early inventor in the radio field, whose feats included the "Fleming Valve", prompts the following thoughts. Just what will be talked about, used, applied and wished for in the next 20 years. In this feature in past issues we have written about the era following the spark gap age and covered items still in use today.

What is in store for the next twenty years? Single Side Band, Teletype, Facsimile, Missile Guidance and TV, including color, will be old hat in just a few short years. Perhaps a little insight is shown in todays papers where we read about moon bounce of signals, men into space and hear that some people think that there are signals coming into our area from outer space.

Will radio be replaced by another means of communications, and if so what will it be? Will we see another group of inventors such as DeForest, Fleming, Edison, Rhinehart and what will they envision such as the above have produced. As we kick these thoughts around, we are sure of one thing, and that being that when the twenty years have rolled past and all the new things have come to be, there will be those who will enjoy sitting around talking about the good old days back in the early 60's.

* * * * *

NOW IS THE TIME

Due to conditions which prohibit K9IUH from taking an active part in the I.R.C., the club is in need of someone to pick up the Editors job on the *Am-A-Chewer*.

The primary effort is in assembling news items and stories sent in by the papers reporters and club members.

If any member is interested contact Alvey Pittman or Pat Husk and they will be glad to fill you in on all the details. P.S. The kinds in the family can then do their homework on the clubs electric typewriter, which the ads say will increase their schoolgrades 50%. Anybody want a genius in the family?

* * * * *

GOONEY GOONEY

Don't forget that the club has the Gooney III which is for use by its members at any time. Contact the Chief Op. and get your request in!

The following listing of I.R.C. Resident members in good standing is published in compliance with the I.R.C. Constitution. An asterisk (*) before a members name denotes members who are eligible to hold office.

- *D. J. Angus, W9CYQ *Gerald Lucas, W9APJ
Robert C. Amunrud, K9QYC *Fred W. Manning, W9VPN
*Robert Annis, W9CUD *Ben Marcel, K9IUH
*Les Bannon, W9ZTD *Ralph Mays
*M. C. Bartlett, W9MC Alvin J. Minnick, K9SUW
*Paul Beckerich, W9SUN William C. Moeller, K9UHW
*Fred Billman, K9KKF *Glenn Montgomery, W9HUD
*Rosalie Billman, K9KKG Henry J. McCain
Ken Brabec, K9SGV *John W. McMahan, K9KVZ
*Wm. G. Bradburn, K9KCQ *Doyal J. McVicker, W9JZV
*Garold Bramblett, W9POF *Bob Osterhous, W9PSE
*Bert Brouse, K9JSF *Henry Peterson, W9ZRK
*Joseph R. Bucek, W9ZSA *Alvey Pittman, W9JJC
*Ralph Bundy, W9MEK *Merrill Price, W9BZB
*Robert Caskey, W9DNQ *Paul Ralston, K9ALJ
*Joe Chasey, W9EIV *Claude Richie, W9TKV
Cleo B. Clingerman, K9PDP *Frances Rufner, W9OSH
*James H. Coffey, K9STF *Mark Rufner, W9OSG
*Ernest L. Dell, K9OLI *Ronald Rush, W9TGH
*Robert M. Derbyshire, K9LJW Charl H. Ryan, K9WST
*Lee Easley, Jr., K9QDR *Howard Severeid, W9DPL
Gene Elliott, Kn9UBN *William F. Sinclair, Kn9QXR
*Arthur Evans, W9TQC *Cliff Singer, W9SWD
*Frank Fitch, W9EJW *Doris Singer, K9IXD
Ray Forbes, Sr., W9HNS *Robert Spannuth, K9BSU
*Max Galloway, K9QXA *James Sugioka, W9CKB
James R. Gifford, K9WSV *John Sukup, W9UJY
Russell S. Henry, W9WUC Elmer E. Taflinger, W9GRN
*A. Bill Hickok, K9AQOM *James G. Thomas
J. Robert Hill, W9RSN *Gene VanSickle, W9KJF
Gary C. Hinderliter, K9OLH *Edwin J. Ward, K9CRS
Gary Hughes, K9LNX *Perry L. Webler, W9GAR
Curtis W. Hunter, K9LVS *Jack Wells, W9EJP
*Pat Husk, K9EUQ *W. R. Williams, W9ZEB
Robert E. Kiefer, K9JKH *Ronald C. Williams, W9JVF
*Wade Kingery, W9JGZ *Julian Witham, W9STC
Richard M. Kinnett, Kn9VIE *Comer Wolf, W9FLD
*James O. Larsen, K9HMO Hank Wolfia, K9LZJ
James D. Rees, Kn9YKH Al Miller, W9AXM
*A. W. Larson, W9SRM George Lone, K9CBY

SPLATTER

Tony Bowman, W9EIR, is sporting a new piece of wall-paper--a certificate for his contact with the ship SS Hope, with W8OLJ/MM at the mike. You will remember that the SS Hope was described in a recent issue of QST. Tony is using a DX100 with a SB 10 and the Apache and a quad.

* * * * *

Claude Richie-W9TKV, informs us that the Marion County Certificate is now known around the world with such stations as IT1-AGA Sicily and DL9PF in Germany asking for Marion County contacts.

* * * * *

Gary Hughes-K9LNX, is at Purdue and calls H3-RM147 his home, while Bob Good-K9PPB, is staying in Carry Hall #108 east. Both operate from the Purdue station W9YB in the Electrical Engineering Building and can usually be heard on Sunday mornings after the Indiana Fone Net.

* * * * *

In the September issue, in the Presidents Frequency, the boss commented on getting a group together and working for that Extra Advance Ticket. K9GCE-Joe Poston and W9YXV-Harold Davis are the first to say they are ready to go. W9JJC makes three, are there any others? ? ?

* * * * *

If you have the urge to try slow scan TV and didn't get the names of our guests at a recent club program night, here they are again. Bob Begeman, W9KVK-Fleetwood 9-4174 and Gene Roeschlein-K9QYI-Liberty 7-9273

* * * * *

Don Steinbarger-K9LNT and an unsuspecting assistant are making a map of the Indianapolis area, with a tack for every call they can locate. You will no doubt see it on display at one of the local supply houses in the near future.

* * * * *

How many of you missed the big scoop the other night when Bert-K9JSF, our club Secretary, used up 6 1/2 minutes of a TV news cast on channel 6, featuring Amateur Radios' part in the MARS program?

Bert's layout made an impressive picture as a background for the interview explaining the HAMS part in this communications work.

Who knows---maybe Bert will show up in Hollywood one of these days!

* * * * *

ATTENTION ALL IRC MEMBERS

The following is a section of the IRC constitution, which is of current importance to all members.

"Election of officers shall be held on the first regular meeting night in December of each year.

During the first week in November, the board of directors shall appoint a nominating committee of three members in good standing. Before the 15th of November the nominating committee shall report their nominations to the Secretary who shall send written notices of such nominations to all members. Any group of five resident members in good standing, wishing to make nominations shall report their nominations to the Secretary at least four days before the annual meeting. Only persons that have been members for one year or more are eligible for the offices or directorship.

The officers and directors shall be chosen on one ballot. The nominee for each office and directorship receiving the highest number of votes shall be declared elected. If any person shall receive the highest number of votes both for an office and a directorship, he shall be declared elected to that office and the person having the next highest number of votes for such directorship shall be declared elected thereto. Any director or officer may be removed from office by a majority vote of the total membership in good standing of the club and at a regular business meeting."

* * * * *

NOMINATING COMMITTEE SLATE

The following is a list of members nominated by the nominating committee for 1961.

President	Bert Brouse, K9JSF
Vice President	Doyal J. McVicker, W9JZV
Secretary	Bob Caskey, W9DNQ
Treasurer	Pat Husk, K9EUQ
1st Director	Alvey Pittman, W9JJC
2nd Director	Bob Osterhous, W9PSE
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